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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,356	06/05/2001	Kazuya Takahashi	109380	4958

25944 7590 06/05/2003

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EXAMINER

CAO, HUEDUNG X

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,356

Applicant(s)

TAKAHASHI, KAZUYA

Examiner

Huedung X Cao

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. Claims 1-4, and 9-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kirkland (US 5986669).

As per claim 1, Kirkland teaches an image generating system which generates a three dimensional image of an object formed of a polygon, comprising:

means which scissors a polygon arranged in a three dimensional space in an arbitrary plane to generate a new vertex for specifying the scissored polygon (Kirkland, col. 2, lines 34-36); and

means which generates an image of an object formed of the polygon containing the new vertex (Kirkland, col. 5, lines 63-64) .

Claim 2 adds into claim 1, wherein a polygon containing a vertex which is out of a drawable range is scissored at a portion containing the vertex in a predetermined plane (Kirkland, col. 2, lines 59-66; and col. 4, lines 58-60).

Claim 3 adds into claim 1, wherein a polygon is scissored in a plane which specifies a viewing angle range (Kirkland, figure 2).

Claim 4 adds into claim 2, wherein a polygon is scissored in a plane which specifies a viewing angle range (Kirkland, figure 2).

As per claim 9, Kirkland teaches a computer program embodied on an information storage medium or in carrier wave, comprising a program for implementing:

means which scissors a polygon arranged in a three dimensional space in an arbitrary plane to generate a new vertex for specifying the scissored polygon (Kirkland, col. 2, lines 34-36); and

means which generates an image of an object formed of the polygon containing the new vertex (Kirkland, col. 5, lines 63-64).

Claim 10 adds into claim 9, wherein a polygon containing a vertex which is out of a drawable range is scissored at a portion containing the vertex in a predetermined plane (Kirkland, col. 2, lines 59-66; and col. 4, lines 58-60).

Claim 11 adds into claim 9, wherein a polygon is scissored in a plane which specifies a viewing angle range (Kirkland, col. 2, lines 59-66; and col. 4, lines 58-60).

Claim 12 adds into claim 10, wherein a polygon is scissored in a plane which specifies a viewing angle range (Kirkland, figure 2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-8; and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkland (US 5986669) in view of Kirk et al. (US 6239808 B1).

Claim 5 adds into claim 1, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a screen coordinate system in order to define screen position and a depth value z to determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Claim 6 adds into claim 2, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable

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vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a screen coordinate system in order to define screen position and a depth value z to determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Claim 7 adds into claim 3, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a screen coordinate system in order to define screen position and a depth value z to determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Claim 8 adds into claim 4, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a

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screen coordinate system in order to define screen position and a depth value z to determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Claim 13 adds into claim 9, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a screen coordinate system in order to define screen position and a depth value z to determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Claim 14 adds into claim 10, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a screen coordinate system in order to define screen position and a depth value z to

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determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Claim 15 adds into claim 11, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a screen coordinate system in order to define screen position and a depth value z to determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Claim 16 adds into claim 12, wherein the polygon containing the detected vertex is scissored at a polygon containing the detected vertex (Kirkland, col. 4, line 58-col. 5, line 7);

wherein a polygon arranged in a three dimensional space is subjected to coordinate transformation into a screen coordinate system, to detect an undrawable vertex (Kirk, col. 1, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform a three dimensional space into a screen coordinate system in order to define screen position and a depth value z to determine how near a vertex is to the screen and thus whether the vertex is viewed with respect to other points at the same screen coordinate.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Huedung Cao** whose telephone number is **(703) 308-5024**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mark Zimmerman**, can be reached at **(703) 305-9798**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-0377.

Huedung Cao
Patent Examiner


MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600